

High Speed 700-890nm Photodetector Chip up to 28 Gbit/s NRZ

Product Code:	D20-850C	1x1
	D20-850C4	4x1
	D20-850C12	12x1
	D20-850C16	16x1



Sample image only. Actual product may vary.

Preliminary

Product Description

These high-speed top-illuminated GaAs-based *pin* photodetector chips are available for the use in development and evaluation of lasers and the next-generation of data communications systems. The chip exhibits a responsivity greater than 0.4 A/W at 850 nm. The PDs are available as individual chips or as linear arrays (4-ch, 12-ch and 16-ch) allowing alignment to single mode fiber or multi mode fibers. The chip can be wire bonded or flip-chip stud bonded.

Features

- single chip or 4/12 /16-ch array
- up to 28 Gbit/s per channel
- High temperature stability
- pitch size 250 μ m

Applications

- 25G Ethernet
- 100G Ethernet
- 400G Ethernet
- Fibre Channel 32FCG
- Infiniband EDR
- Active optical cables (AOCs)

Parameter	Typical	Notes
Operating Wavelength	700 - 890 nm	
Data Rate	up to 28 Gbit/s per channel	
Responsivity	0.4 W/A	
Small signal -3dB bandwidth	20 GHz	

Preliminary

Electro Optical Specifications (T = 0 to 85°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Data bit rate	BR				28	Gbit/s
Small signal -3dB bandwidth	BW _{f3db}	V _{bias} = -2 V		20		GHz
Operating wavelength	λ		700	850	890	nm
Rise / Fall time	t _R / t _F	Ti Sapphire laser 3 pcs input pulse 20 – 80%		9		ps
Responsivity	R			0.4		A/W
Capacitance	C				80	fF
Dark current	I _D	V _{bias} = -5 V		≤ 1		nA

Absolute Maximum Ratings

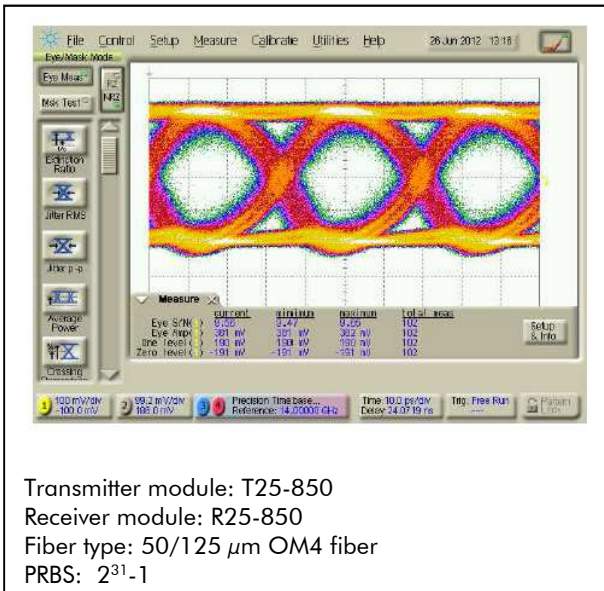
Parameter	Symbol	Condition	Min	Max	Unit
Max input power	P _{max}	at 850nm		2	mW
Operating temperature	T _{op}			100	°C
Storage temperature	T _{st}		-40	100	°C
Soldering Temperature	T _{sl}	max 260 sec		150	°C
Reverse voltage	V _r			-20	V
Reverse breakdown voltage	V _{bo}			-5.5	V

Mechanical Dimensions

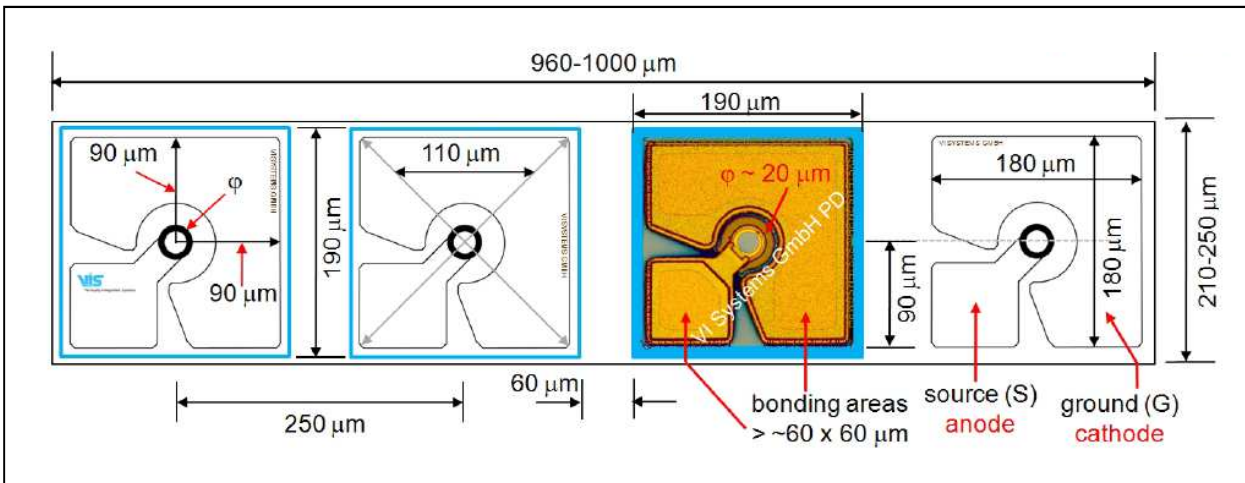
Parameter	Type	Min	Typ	Max	Unit
PD pitch			250		μm
Length	D20-850C1		210	250	μm
	D20-850C4		960	1000	μm
	D20-850C12		2960	3000	μm
	D20-850C16		3920	4000	μm
				150	
Height			150		μm
Width			220	250	μm

All product specifications and descriptions are subject to change without notice.

Optical eye diagram at 28 Gbit/s



Dimensions



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Limited Qualification Notification

The D20-850CX has been tested to meet specifications outlined in this datasheet. However it has not undergone full qualification testing or characterization and therefore may not meet the performance specifications over all extremes.



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